

REMARKS

Claims 26, 27, 29, 33 and 38 have been amended to recite some specific eremophilone compounds. Claims 26, 44-46, 52 and 79 have been amended to specifically recite "termite(s)". Claims 30, 34, 35, 39 and 47-51 have been canceled without prejudice. New Claim 83 has been added and support for the new claim can be found, for example, from page 38 of the specification as originally filed. No new matter has been added herewith. Currently, Claims 26, 27, 29, 31, 33, 36, 38, 40, 41, 44-46, 52-57, 79 and 83 are pending. Of these, Claims 33, 36, 38, 40 and 83 are withdrawn from consideration. The following addresses the substance of the Office Action.

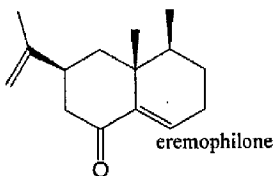
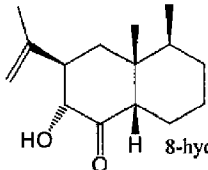
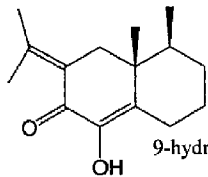
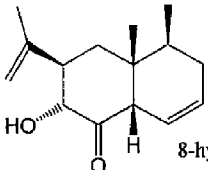
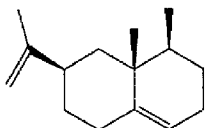
Obviousness

Claims 26, 27, 29-31, 41, 44-57 and 79 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Maupin et al. (WO 02/50053) in view of Chetty et al. (1969 *Tetrahedron Letters* 5:307-309) as evidenced by Gonzales-Coloma et al. (1995 *J Chem Ecology* 21:1255-1270).

Claim 26 recites a method for controlling termites by exposing the termites to a termite-controlling effective amount of a compound of formula (I) or a tautomer thereof or a composition comprising at least one compound of formula (I) or a tautomer thereof. The formula (I) as defined in the amended Claim 26 specifically recites eremophilone, 8-hydroxy-1(10)dihydroeremophilone, 9-hydroxy-7(11),9-eremophiladien-8-one, and 8-hydroxyeremophila-1,11-dienone and their derivatives, but excludes eremophilene.

Eremophilene shares some structural features with the cited eremophilone compounds; however, it has no activity in controlling termites. This was established in Table 1 of the declaration submitted on October 22, 2009. For the Examiner's convenience, Table 1 is reproduced below:

Table 1. The structural formula and the activity against termites.

Compound	Structural formula	LD ₅₀ (24 hours)
EM-1	 eremophilone	0.16
EM-2	 8-hydroxy-1(10)-dihydroeremophilone	0.68
EM-3	 9-hydroxy-7(11),9-eremophiladien-8-one	0.45
EM-5	 8-hydroxyeremophila-1,11-dienone	0.21
Eremophilene		No mortality

As seen from the above results, eremophilene, a compound with no 9-oxo group and no oxygenation in the 9-position has no bioactivity. In contrast, EM-1 to EM-3 and EM-5 (i.e. eremophilone, 8-hydroxy-1(10)dihydroeremophilone, 9-hydroxy-7(11),9-eremophiladien-8-one, and 8-hydroxyeremophila-1,11-dienone, respectively) of the claimed inventions having a 9-oxo group or oxygenation at the 9-position derived from a 9-oxo group (a tautomer), have good bioactivities in killing termites.

The above data clearly prove that the cited eremophilone compounds have significantly higher bioactivities, especially in controlling termites as compared to that of eremophilene. Applicants respectively submit that such a high bioactivity that is uniquely present in the eremophilone compounds is unexpected in view of the prior art cited in the Office Action.

Maupin teaches a variety of compounds as pest-controlling agents. The broad disclosure of Maupin including that is disclosed in page 20 and 21 may encompass eremophilene and some eremophilone compounds. However, there is no disclosure in Maupin that eremophilene and

eremophilone compounds would have drastically different activities in pest control. More particularly, there is no disclosure and suggestion in Maupin that the eremophilone compounds, but not eremophilene, have significant bioactivities, especially in controlling termites. Rather, in view of Maupin, it appears that eremophilene and eremophilone compounds would have similar activities in controlling pests. Accordingly, the uniquely high bioactivities of the eremophilone compounds and a method of controlling termites using the eremophilone compounds cannot be anticipated or obvious in light of Maupin.

Turning to Chetty, the reference merely describes the isolation of the eremophilone compounds and their structure. However, there is no teaching or suggestion of their biological activity, especially in controlling pests.

Applicants noted that Examiner's comment that plants are commonly known to produce compounds which are effective against infestations, diseases, and other threats that plant faces, and accordingly it is not surprising that eremophilone would be effective at controlling pests such as termites. Both of eremophilene and eremophilone compounds are known to be present in plants; however, as shown in the above Table 1, only the eremophilone compounds have significant bioactivities against termites and eremophilene has almost no activity. Therefore, these unique activities of the eremophilone compounds and use thereof in controlling termites should be indeed surprising and unexpected according to the foregoing Examiner's view. Thus, Chetty adds nothing to lead a person with ordinary skill in the art to expect or anticipate the subject matter of the pending claims.

As noted, nothing in the prior art would lead one having ordinary skill in the art to predict the Applicants' demonstration of the bioactivity of eremophilone compounds against termites and the claimed methods using the same to control termites. The claims have been narrowed to cover a class of compounds commensurate in scope with the data provided in the Declaration for which unexpected results were shown. Accordingly, the presently pending claims are nonobvious over the cited prior art in light of the significant unexpected results demonstrated for the claimed invention.

Accordingly, these unexpected results would rebut a *prima facie* showing of obviousness even were such a showing present. Withdrawal of the rejection and reconsideration of Claim 26 and its dependent Claims 27, 29, 31, 41, 44-46, 52-57 and 79 is respectfully requested. As Claims 30 and 47-51 have been canceled, rejection of these claims is now moot.

Double Patenting

Claims 26, 27 and 29-31 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 13-16, 19-20, 32-33, 37 and 38 of U.S. Patent No. 7,129,271 to Maupin, in view of Chetty et al. (*supra*).

Applicants respectfully submit that the above arguments rebutting the rejection under 35 U.S.C. § 103(a) are also applicable to the double patenting rejection. Applicants demonstrated that the high activities of the eremophilone compounds against termites and the method using the same as cited in Claim 26 would not be expected by one having ordinary skill in the art, even in view of references such as Maupin and Chetty. Accordingly, the subject matter of Claims 26, 27, 29 and 31 cannot be obvious over the claims of the Maupin et al. patent even in view of Chetty. Withdrawal of the rejection is respectfully requested. Claim 30 has been canceled, and thus rejection of this claim is now moot.

Request for Rejoinder

In response to an Election Requirement dated November 26, 2008, Applicants elected Claims 26, 27, 29-31, 41, 44-57 and 79 for further prosecution on January 26, 2009. Accordingly, Claims 33, 36, 38, 40 and new Claim 83 are currently withdrawn. The withdrawn Claims 33, 36, 38, 40 and 83 are each dependent on Claim 26. Upon allowance of Claim 26, Applicants respectfully request that Claims 33, 36, 38, 40 and 83 be rejoined and allowed as being dependent on and requiring all the limitations of an allowable claim. *See* M.P.E.P. § 821.04.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

CONCLUSION

In view of Applicants' amendments to the Claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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